UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,257	01/04/2002	Hiroyuki Atarashi	214472US2PCT	8789

22850 7590 10/18/2006

C. IRVIN MCCLELLAND
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
HOANG, THAI D	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/926,257	ATARASHI ET AL.	
	Examiner	Art Unit	
	Thai D. Hoang	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *Amendment filed on 07/24/2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) *9* is/are withdrawn from consideration.

5)☒ Claim(s) *13* is/are allowed.

6)☒ Claim(s) *1-8 and 10-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *14-41* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/14/2006 and 8/10/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's election with traverse of group I (claims 1-10, 13 and 27) in the reply filed on 11/30/2005 is acknowledged. The traversal is on the ground(s) that the PCT of the present Patent Application did not separate the claims. This is not found persuasive because a unity of the PCT is based on technical features of the claims, whereas a unity of a patent application is base on scope and/or class and subclass of the claims.

The requirement is still deemed proper and is therefore made FINAL.

A Final Office Action includes claims 1-8 and 10-13, based on elected group I as indicated in the reply filed on 11/30/2005 and Applicants' Amendment submitted on 07/24/2006, follows.

Claim Objections

Claims 7-8 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 7-8 recited "A mobile radio packet transmission method as claimed in claim ...", but previous claims did not claim a mobile radio packet transmission method.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3, 7-8 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, the statement "assigning a predetermined fixed time slot for dedicated use for reservation demand packet transmission and code-multiplexing the predetermined time slot" is confusing because it indicates the step of multiplexing multiplexes "a predetermined fixed time slot" with itself. Furthermore, claim 1 recited:

"assigning a predetermined fixed time slot for dedicated use for reservation demand packet transmission and code-multiplexing the predetermined time slot by utilizing part or all of the spreading codes; and

time-multiplexing and transmitting reservation demand packets by use of the predetermined fixed time slot and data packets by use of other time slots."

it is confusing because "a predetermined fixed time slot" is multiplexed twice, first code-multiplexing, and then time multiplexing.

Claims 3, and 7-8 are rejected because they depend on rejected claim 1.

Claim 11, the statement "assigning a predetermined fixed time slot for dedicated use for reservation demand packet transmission and code-multiplexing the predetermined time slot" is confusing because it indicates the step of multiplexing multiplexes "a predetermined fixed time slot" with itself.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3 and 7-8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recited:

"assigning a predetermined fixed time slot for dedicated use for reservation demand packet transmission and code-multiplexing the predetermined time slot by utilizing part or all of the spreading codes; and

time-multiplexing and transmitting reservation demand packets by use of the predetermined fixed time slot and data packets by use of other time slots."

It indicates "a predetermined fixed time slot" is multiplexed twice, first code-multiplexing, and then time multiplexing. The specification does not disclose to support this feature.

Claims 3 and 7-8 are rejected because they depend on rejected claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-2, 11-12 are rejected under 35 U.S.C. 102(a) as being unpatentable by Williams, US Patent No. 5,867,764.

Regarding claims 1 and 11, as best understood, Williams discloses a system called "Hybrid return gate system in a bidirectional cable network." Williams teaches that the system comprises reservation timeslots 415-416 in the frame 410, 415,426 in the frame 420 and 435-436 in the frame 430, see figure 4, abstract, col. 6, lines 21-41, wherein the reservation of the timeslots is dynamically allocated based on demand of the system; col. 5, lines 53-65. The system disclosed by Williams performs time multiplexing all of packets in timeslots, col. 8, lines 29-34. In addition, Williams discloses that the system comprises a data modulator 345, which may use CDMA modulation, col. 12, lines 56-60.

Regarding claims 2 and 12, since Williams discloses the data modulator 345 may use CDMA modulation (col. 12, lines 56-60). Therefore, if the data modulator is a CDMA modulator, the system must assign a number of spreading codes to reservation timeslots. As indicated above, the system disclosed by Williams performs time multiplexing all of packets in timeslots, col. 8, lines 29-34.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-8, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams as shown above, in view of Chuah et al, US patent No. 6,693,952, hereafter referred to as Williams and Chuah respectively.

Regarding claim 3, Williams discloses that the reservation of the timeslots is dynamically allocated based on demand of the system; col. 5, lines 53-65. Williams does not disclose the allocation based on a predetermined value. Chuah discloses a method and system called "Dynamic code allocation for downlink shared channels." Chuah teaches that the system allocates codes base on a threshold value, col. 5, lines 25-35. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the method disclosed by Chuah into Williams' system in order to optimize bandwidth of the system.

Regarding claims 4-6, since Williams discloses the data modulator 345 may use CDMA modulation and the reservation of the timeslot is dynamically allocated based on demand of the system; col. 5, lines 53-65. Therefore, the system could be able to decreasing spreading codes of the reservation packet, and increasing spreading codes of the data packets. Williams does not disclose the allocation based on a predetermined value. However, Chuah teaches that the system allocates codes base on a threshold value, col. 5, lines 25-35. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the method disclosed by Chuah into Williams' system in order to optimize bandwidth of the system.

Regarding claims 7-8, Willams discloses the reservation packets, but does not disclose data packet rate and available spreading codes. However, Chuah teaches that the system measures data rate and determines available codes for allocation, col. 5, lines 16-35. It would have been obvious to one of ordinary skill in the art at the time the

invention was made to adapt the method disclosed by Chuah into Williams' system for advantages cited above with respect to claim 3.

Claim 10 is rejected under 35 U.S.C. 102(a) as being unpatentable by Williams, US Patent No. 5,867,764 in view of Masui et al, US Patent No. 6,269,088 B1, hereinafter referred to as Williams and Masui respectively.

Regarding claim 10, Williams discloses that the time slots can be categorized as short contention time slots and long contention time slots, col. 5, lines 42-44. Williams does not disclose the system use a short spreading code for reservation and long spreading code for data transmission. However, Masui discloses a CDMA mobile communication system and communication method. Masui teaches that the system use a short spreading code for reservation (abstract and col.12, lines 19-26) and long spreading code for data transmission (col. 12, lines 27-31). It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt Masui method into the system disclosed by Williams in order to avoid interference between data signal and reservation signal.

Response to Arguments

Applicant's arguments filed 07/24/2006 with respect to claim 1 and 11 have been fully considered but they are not persuasive.

Regarding claims 1 and 11, pages 15-16 of the remark, Applicants argued, "In Williams, if the transmission of a reservation time slot thus fails, a retry is performed after a predetermined time period. That is, the reservation information is not included in dedicated time slot. Accordingly, Williams fails to disclose or suggest assigning a

predetermined fixed time slot for dedicated use to reservation demand packet transmission as recited in amended Claim 1 (or Claim 11)." Examiner respectfully disagrees. First, Williams clearly discloses the first limitation of the claims 1 and 11. Williams teaches that the system comprises fixed reservation timeslots 415-416 in the frame 410, timeslots 415,426 in the frame 420 and timeslots 435-436 in the frame 430, see figure 4, abstract, col. 6, lines 21-41, wherein the reservation of the timeslots is dynamically allocated based on demand of the system; col. 5, lines 53-65. Secondly, *retrying* and *assigning* are not the same concept for comparison.

Regarding claim 2 and 12, page 16 of the remarks, Applicants argued, "Williams fails to disclose or suggest assigning k (0<k<N) spreading codes among all N spreading codes as fixed codes for dedicated use to reservation demand packet transmission." Since Williams discloses the data modulator 345 may use CDMA modulation (col. 12, lines 56-60). Therefore, if the data modulator is a CDMA modulator, the system must assign a number of spreading codes to reservation timeslots. It is a fundamental concept in a CDMA system.

Furthermore, page 15 of the remarks, Applicants argued, "there is no evidence or reference to CDMA modulation in Williams." Examiner respectfully disagrees. Applicants are directed to col. 12, lines 56-60, wherein Williams discloses the data modulator 345 may use CDMA modulation.

Applicant's arguments with respect to claim 10 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

Claim 13 is allowed.

The following is an examiner's statement of reasons for allowance:

Chuah et al, US patent No. 6,693,952, discloses a method and system called "Dynamic code allocation for downlink shared channels." Chuah does not teach or fairly suggest *"a reservation demand packet transmission admission probability"* as recited in claim 13.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D. Hoang whose telephone number is (571) 272-3184. The examiner can normally be reached on Monday-Friday 10:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TH

Thai Hoang

WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER